

Applicants note that no rejection has been applied to Claim 23. Applicants request clarification of the status of this claim.

Claims 1, 8, 10, 11, 15, 22, 24, 25, 29, and 30 have been amended. Claims 10, 11, 24, and 25 have been amended to improve their form. Applicants submit that the amendments to Claims 10, 11, 24 and 25 merely improve their form and do not narrow the scope of the claims. The specification has been amended to improve its form. No new matter has been added.

Claims 1, 3, 5, 8, 10, 12, 15, 17, 19, 22, 24, 26, 29 and 30 stand rejected under 35 U.S. §102(e) as being anticipated by U.S. Patent No. 5,621,429 (Yonezawa). Claims 2, 4, 6, 9, 11, 13, 16, 18, 20, 21, 25, 27, and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yonezawa in view of U.S. Patent No. 5,621,429 (Yamaashi, et al.). Claims 7, 14, 21, and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yonezawa. These rejections are respectfully traversed.

In one aspect of the present invention, independent Claim 1 recites features of a communication apparatus including a reception means, an output means, and a notification means. The reception means receives images generated from a plurality of communication terminals. The output means outputs the images received by the reception means in order to display the images on a display unit as multiple images. The notification means acquires and notifies a state of reception of the images by the reception means while the reception means is receiving the images.

Independent Claims 8 and 29 correspond generally to independent Claim 1 and recite similar features in method and storage medium forms, respectively.

In another aspect of the present invention, independent Claim 15 recites features of a communication apparatus including reception means, output means, assigning means, and notification means. The reception means receives a part or all of images generated from image generation units of a plurality of corresponding communication terminals by switching the images. The output means outputs the images received by the reception means in order to display the images on a display unit as multiple images. The assigning means assigns an arbitrary image from among the multiple images. The control means controls a state of outputting of the image assigned by the assigning means. The notification means acquires and notifies a state of reception of the images by the reception means while the reception means is receiving the images.

Independent Claims 22 and 30 correspond generally to independent Claim 15 and recite similar features in method and storage medium forms, respectively.

The rejection of independent Claims 1, 8, 15, 22, 29, and 30 under 35 U.S.C. §102 should be withdrawn because the cited art does not teach at least the claimed features of acquiring and notifying a state of reception of the images . . . while said reception means is receiving the images (Claims 1 and 15), while performing said receiving step (Claims 8 and 22), or while said reception process code is receiving the images (Claims 29 and 30).

Yonezawa relates to a communication apparatus and method and teaches video reception software that notifies of a state of reception when a camera control client breaks a network connection. In Yonezawa, video reception software 412 notifies a camera control client 411 and map management software 413 that the display of images has stopped. Upon receipt of the notification, the camera control client breaks the network connection to a camera display server 421. When the network connection is broken, the map management software 413 changes

a camera icon 523 displayed on the display, which icon is associated with the disconnected camera. (Col. 6, lines 58-65). Thus, Yonezawa teaches that the video reception software notifies the camera control client and the map management software of a state of reception when the camera control client breaks the network connection to camera control server 421. In stark contrast, the present invention recites features of acquiring and notifying a state of reception of the images . . . while said reception means is receiving the images, while performing said receiving step, or while said reception process code is receiving the images (Claims 1, 8, and 29) or while the reception means is receiving the images, while performing said receiving step, or while said reception process code is receiving the images (Claims 15, 22, and 30). Thus, at least for this reason, Yonezawa, at al. does not anticipate the present invention as recited in the independent claims.

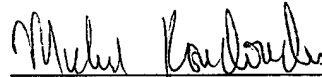
Regarding Claims 2, 4, 6, 9, 11, 13, 16, 18, 20, 21, 25, 27, and 28 which have been rejected under U.S.C. §103, Yamaashi, et al. relates to a video data display controlling method and video data display processing system and is cited merely for its teachings of a state of reception that is information relating to a frame rate, changing displayed information in accordance with a frame rate, and not performing notification when a frame rate is high and performing notification when a frame rate is reduced. Applicants submit that Yamaashi, et al. adds nothing to the Yonezawa's teachings that would remedy the above-mentioned deficiencies.

Applicants respectfully submit that independent Claims 1, 8, 15, 22, 29, and 30 patentably define the present invention over the cited art. Further, the dependent claims should also be allowable for the same reasons as the base claims and further due to the additional features that they recite.

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action and submits that the application is in allowable form. Favorable consideration of the claims and passage to issue of the patent application at the Examiner's earliest convenience earnestly are solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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APPENDIX
VERSION SHOWING CHANGES MADE TO CLAIMS

1. (Amended) A communication apparatus comprising:

reception means for receiving images generated from a plurality of communication terminals;

output means for outputting the images received by said reception means in order to display the images on a display unit as multiple images; and

notification means for acquiring [grasping] and notifying a state of reception of the images by said reception means while said reception means is receiving the images.

8. (Amended) A communication method comprising the steps of:

receiving images generated from a plurality of communication terminals;

outputting the received images in order to display the images on a display unit as multiple images; and

acquiring [grasping] and notifying a state of reception of the [received] images in said receiving step while performing said receiving step.

10. (Amended) A communication method according to Claim 8, wherein said acquiring and notifying step [the notification] changes the display unit in accordance with the state of reception.

11. (Amended) A communication method according to Claim 8, wherein said grasping and notifying step [the notification] changes information displayed on the display unit in accordance with a frame rate of a received image.

15. (Amended) A communication apparatus comprising:

- reception means for receiving a part or all of images generated from image generation units of a plurality of corresponding communication terminals by switching the images;
- output means for outputting the images received by said reception means in order to display the images on a display unit as multiple images;
- assigning means for assigning an arbitrary image from among the multiple images;
- control means for controlling a state of outputting of the image assigned by said assigning means; and
- notification means for acquiring [grasping] and notifying a state of reception of the images by said reception means while said reception means is receiving the images [the image by said control means].

22. (Amended) A communication method comprising the steps of:

- receiving a part or all of images generated from image generation units of a plurality of corresponding communication terminals by switching the images;
- outputting the received images in order to display the images on a display unit as multiple images;

assigning an arbitrary image from among the multiple images;
controlling a state of outputting of the assigned image; and
acquiring [grasping] and notifying a state of reception of the [assigned image] images
in said receiving step while performing said reception step.

24. (Amended) A communication method according Claim 22, wherein said acquiring and notifying step [the notification] changes the display unit in accordance with the state of reception.

25. (Amended) A communication method according to Claim 22, wherein said acquiring and notifying step [the notification] changes information displayed on the display unit in accordance with a frame rate of a received image.

29. (Amended) A storage medium storing a program, said program comprising:

[a] reception process code for [of] receiving images generated from a plurality of communication terminals;

[an] output process code for [of] outputting the received images in order to display the images on a display unit as multiple images; and

[a] notification process code for acquiring [of grasping] and notifying a state of reception of the [received] images by said reception process code while said reception process code is receiving the images.

30. (Amended) A storage medium storing a program, said program comprising:

[a] reception process code for [of] receiving a part or all of images generated from image generation units of a plurality of corresponding communication terminals by switching the images;

an output process code for [of] outputting the received images in order to display the images on a display unit as multiple images;

an assigning process code for [of] assigning an arbitrary image from among the multiple images;

[a] control process code of controlling a state for [of] outputting of the assigned image; and

[a] notification process code for acquiring [of grasping] and notifying a state of reception of the [assigned image] images by said reception process code while said reception process code is receiving the images.

APPENDIX

VERSION SHOWING CHANGES MADE TO SPECIFICATION

The paragraph starting at page 1, line 12 through line 24, has been amended as follows:

--Conventionally, a remote monitoring system using a plurality of cameras includes a plurality of video cameras, and a synthesizer for performing analog synthesis of the images output from these cameras. Such a system is typically utilized within a relatively small building, and is called a local monitoring system. In contrast to such local monitoring systems, remote monitoring systems have been proposed[,] in which a plurality of cameras are connected to a digital network, such as a LAN (local area network), an ISDN (integrated services digital network), or the like, serving as a public digital network, [or the like,] in order to provide a more flexible system and to connect a larger number of cameras which are present at more remote locations.--

The paragraph starting at page 1, line 25 through page 2, line 9, has been amended as follows:

--In some [of] recent remote monitoring systems, a personal computer or a work station is utilized as a monitoring terminal, and image display using a graphical user interface (GUI), and system control are realized. By utilizing the GUI of the computer as [on] the monitoring terminal, even a person who is not familiar with the apparatus can easily operate

[deal with] the system. In particular [Particularly], by displaying a control panel of a camera which outputs an image, on a monitor together with an image from the camera, the operability of the system can be improved.--

The paragraph starting at page 2, line 10 through line 16, has been amended as follows:

--For example, a summary of images from a plurality of cameras, or the details of an image from a specific camera, may be displayed as an image [to be displayed] in the conventional system of this type. However, the operability of the display operation and the capability to identify the state of the system are not always acceptable [excellent]. Therefore, there is room for improvement.--

The paragraph starting at page 2, line 17 through line 19, has been amended as follows:

--Consider a case in which images from a plurality of cameras are displayed and the processing speed of the monitoring terminal is not [so] high.--

The paragraph starting at page 2, line 20 through page 3, line 1, has been amended as follows:

--The monitoring terminal sequentially expands and displays [a] received compressed images from a plurality of cameras. However, when the calculation speed of the

monitoring terminal is not [so] high, the frame rate of the displayed image from each camera is, in some cases, reduced. Furthermore, when the network does not have a sufficient capacity for the transmitted image or images, the frame rate is also reduced.--

The paragraph starting at page 3, line 2 through line 8, has been amended as follows:

--As a result of frame rate reduction, the operator of such a conventional monitoring system may erroneously recognize [recognizes] that there is an abnormality in the monitoring terminal because a change in the displayed image is small. In another case, even if there is no change in the displayed image because there is an abnormality in the monitoring terminal, the operator may [does] not recognize the abnormality and fail [fails] to correctly monitor the image.--

The paragraph starting at page 11, line 20 through page 12, line 42, has been amended as follows:

--In FIG. 2, there are shown a CPU (central processing unit [terminal]) 22 for controlling the entire terminal, a main storage 24, a detachable external storage 26, such as a floppy disk, a CD(compact disc)-ROM(read-only memory) or the like, a secondary storage 28, such as a hard disk or the like, a mouse 30 serving as a pointing device, and a keyboard 32. The camera control device 14 is connected to an I/O (input/output) board 34 for transmitting/receiving camera control signals. A video capture device 36 receives a video output

signal from the video camera 16. The video capture device 36 of the first embodiment has the A/D (analog-to-digital) conversion function of converting an analog video signal into a digital signal, and the image compression function of compressing information. A video board 38 displays image information on the picture surface of a monitor 40. There are also shown a network interface 42, and a system bus 44 for interconnecting the devices 22-38, and 42.--

The paragraph starting at page 14, line 17 through page 15, line 7, has been amended as follows:

--The image reception software 52 controls the cameras 16 connected to all the image transmission terminals 12 which are connected to the network 10, and includes fixed information and various types of changing information. Non-limiting examples of changing information include, but are not limited to, [(for example,) the name of each camera 16, the name of the host computer to which each camera 16 is connected, the state of each camera 16, such as panning/tilting, zooming or the like, whether each camera 16 is controllable, the camera 16 which is currently controlled, the camera 16 providing the currently displayed image, and the state of image distribution, such as the frame rate or the like]]. The image reception software 52 utilizes such information for image information display and the like. Such information is also supplied to the camera control client 50 and the map control software 54, and is utilized, for example, for changing the display of the camera symbol.--

The paragraph starting at page 17, line 17 through page 18, line 5, has been amended as follows:

--The details of camera control in the first embodiment will now be described in detail. When intending to display an image from a camera 16, an operation of selecting the camera icon indicating that camera 16 on the corresponding map of the map window 60, superposing the selected camera icon on one of the image display regions 66a - 66f on the image display window 64, and then releasing the camera icon (a so-called drag-and-drop operation), is performed. Usually, an unused region of the image display regions 66a - 66f is selected. When the image display region currently being used has been selected, a warning of switching of the camera may be performed, and the user may be asked to select between continuation and interruption. Such processing is [well] known in the art.

The paragraph starting at page 20, line 25 through page 21, line 16, has been amended as follows:

--FIG. 10 is a flowchart illustrating processing for turning off the power supply of an arbitrarily selected camera 16. When intending to temporarily turn [turning] off the power supply of the selected camera, an operation of selecting a camera icon indicating the camera whose power supply is to be turned off, and depressing a camera power supply button 70 of the camera control panel 68, is performed. The camera power supply button 70 is displayed with a different color and/or different characters (for example, "power supply off" or "power supply on") in accordance with the state of the power supply of the concerned camera. In accordance

with the operation of the camera power supply button 70, the camera control client 52 notifies the camera control server 56 of the image transmission terminal 12 to which the corresponding camera 16 is connected of a request to turn off the camera power supply via the network 10 (step S1).--

The paragraph starting at page 27, line 9 through line 18, has been amended as follows:

--When intending to interrupt image display, an operation of putting an image to be displayed on the image display region to be interrupted into the trash bin [dustbin] icon 66g may be performed. FIG. 12 illustrates a case in which display of an image displayed on the image display region 66c is interrupted. The mouse button is depressed after moving the mouse pointer onto the image display region 66c, the mouse pointer is moved onto the trash bin [dustbin] icon 66g while depressing the mouse button, and the mouse button is released on the trash bin [dustbin] icon 66g.--

The paragraph starting at page 45, line 4 through line 14, has been amended as follows:

--Since the frame rate of an image being received can be notified, it is possible to prevent misdetermination by the operator as a failure which may occur, for example, when the frame rate of the image is small because the speed of the network is low or because display

processing (display, decoding (in the case of a compressed image), and display) of the communication apparatus is slow. Thus, the [The] operator can easily recognize the state of reception. Furthermore, the value of the frame rate can be easily confirmed.--